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## State of Wisconsin

### Department of Health Services

DIVISION OF PUBLIC HEALTH

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dhs.wisconsin.gov

March 22, 2011

**To:** Community Members Affected By Flooding

**Re:** Respirator Use During Flood Recovery

Flood recovery efforts can be trying on both physical and mental well being. The resources attached are meant to help you get through the flood recovery process safely. Whether you are repairing your home, helping someone with theirs or helping as part of your job, you will need to protect yourself against the hazards you may encounter.

One such hazard may be airborne mold and bacteria in the dust generated from demolition activity. If you will be engaged in activities that generate a lot of dust, a dust mask or respirator may be appropriate to reduce exposure. Filtering face piece respirators (dust masks) can be purchased at most hardware or home improvement stores. These masks can help reduce particulate if used and fitted properly. Following manufacturer directions is very important. An example of such instructions is attached.

Using a respirator can add to the physical burden of recovery work. People with pre-existing health conditions, particularly heart or lung conditions, should check with their physician prior to using a respirator.

The following materials are attached to help you recover safely:

- Minnesota fact sheet on community respirator use
- 3M instructions on how to properly fit their N95 respirator:
- DHS Mold Fact Sheet and Mold contractor list:
- CDC Fact Sheet on Health and Safety for Flood Recovery

If you will be performing work as part of your job, your employer will need to assure that the necessary personal protective standards are being followed. These responsibilities include assessing possible hazards you may be exposed to, providing equipment and training in its proper use and medical services. More information can be found at:

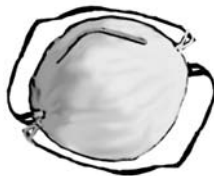
<http://www.osha.gov/OshDoc/FloodFacts.html>

OSHA can be reached at: (608)441-5388 (Madison office) or (414) 297-3315 (Milwaukee office).

If you have questions about health and safety associated with flood recovery, please contact your local health department or the Wisconsin Division of Public Health at 608-266-1120.

# Use of an N95 Respirator: Cleaning Up After the Flood

## What is an N95 Respirator?



N95 respirators decrease the risk of breathing in very small particles in the air caused by sweeping, sawing, and mold removal. The respirator must

have a tight seal against your face so that most of the air you inhale goes through the respirator to correctly protect you.

N95 respirators will not protect against chemicals or gases in the air, such as carbon monoxide. If you smell any chemical odors, leave the area right away.

## What is the difference between a respirator and a surgical mask?



Respirators are not the same as surgical masks. Surgical masks do not protect against breathing in very small particles such as dust or mold because they do not

fit tightly to the face, allowing air particles to leak in around the edge of the mask.

Other types of masks, such as dust masks, that appear similar to respirators may not be designed to protect the wearer from airborne hazards such as mold and should not be used for this purpose.

## When should I wear an N95 respirator?

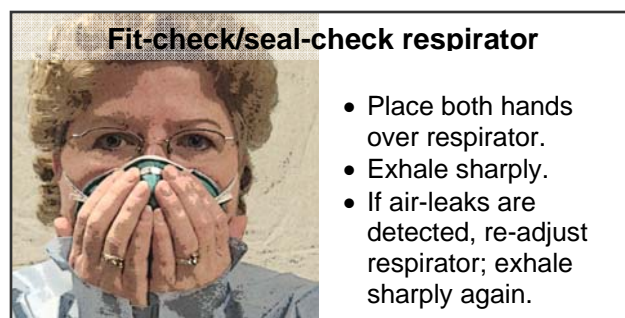
Wear a respirator when you are doing anything that creates a lot of dust (e.g. sweeping, using power saws, shoveling debris, or cleaning up mold). You usually do not need to wear a respirator inside a home or building unless you are doing these types of activities.

## Where can I purchase respirators?

You can buy N95 respirators in safety supply stores and in most home improvement and hardware stores. Look for the term "N95" printed on the respirator or packaging.

## How to use an N95 respirator:

- Follow the manufacturer's instructions on the package for putting on the respirator and getting a tight seal; it must be worn correctly to provide protection.
- After the respirator is on and formed to your face, check the fit of the respirator.



- Place both hands over respirator.
- Exhale sharply.
- If air-leaks are detected, re-adjust respirator; exhale sharply again.
- If air leaks are present, readjust the nosepiece, straps and secure the respirator to your face; check the fit again.
- The respirator will not work if air leaks around the sides.
- Take the respirator off when you have completed your task.
- Clean your hands after removing the respirator.
- Hang it to dry in a clean area so it will not be crushed.
  - You can re-use the respirator unless it is damaged or you cannot get a tight seal when it is reused.
- Disposable respirators cannot be cleaned by washing, they must be disposed of when you can no longer get a tight seal.
- Used respirators can be disposed of in the regular trash.

## Tips for using respirators:

- Respirators do not fit everyone.
- Beards or other facial hair may prevent the respirator from fitting properly.
- People with chronic heart or lung conditions (e.g. congestive heart disease, asthma) should consult their health care provider before using a respirator.
- If you have trouble breathing or have any other trouble when wearing a respirator for clean-up work, stop working and contact a healthcare provider.

# Helping you Wear it Right

## Putting On Your 3M™ Particulate Respirator 8612F\*

For Use by the General Public in Public Health Medical Emergencies.

For proper use, see the *User Instructions* provided inside product packaging.



# 1



### Prepare To Use Respirator

- Wash your hands thoroughly with soap and water or an alcohol-based hand cleaner before handling.
- Inspect respirator for holes, tears or other damage to surfaces, straps, metal nose strip and nose foam. Get a new respirator if damaged.
- Remember, nothing should be between your face and the respirator, including hair, facial hair, jewelry, clothing, etc.
- If you wear glasses, read steps 2 through 4, then remove glasses before putting on the respirator.

# 2

### Place Respirator On Face



- Place respirator against your face, with the bottom under chin and metal nose strip across bridge of nose.



- Pull the top elastic band over your head and place high at the top back of your head.



- Next, pull the bottom elastic band over your head and place around the neck below the ears.

# 3



### Adjust The Metal Nose Strip

- Use both hands to bend the metal nose strip to fit snugly against your nose and face. The respirator may not fit as well if you pinch the metal nose strip using one hand. Use two hands.
- Slide fingers down both sides of metal nose strip to seal it against your nose and face.

# 4

### Check The Respirator-To-Face Seal



**Remember: Putting the respirator on correctly means more of the air that you breathe goes through the respirator filter.**

Completely cover the outside of the respirator with both hands. Do not push the respirator against your face. With your hands in place on the surface of the respirator, exhale or breathe out sharply. If you feel air blowing on your face or eyes, the respirator needs to be adjusted. To adjust, repeat steps 2,3 and 4. When the respirator has a good fit, you will not feel any air blowing on your face or eyes. If you can't get a good fit, try a different model respirator. Return glasses to face, if applicable.

Although the 8612F respirator is designed to fit a variety of adult face sizes, it is not designed for use by children.

### How To Remove And Dispose Of Your Respirator

Go to a clean, safe area away from other people to remove your respirator.

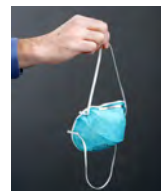
**Important: Touch only the straps and not the surface of the respirator when removing. It is recommended to wash your hands thoroughly with soap and water or an alcohol-based hand cleaner before and after removing your respirator.**



- Without touching the respirator, lift the bottom strap from around your neck up over your head.



- To avoid snapping the respirator, SLOWLY lift off the top strap.



- Properly dispose of your used respirator by carefully placing in a closed waste container. You should never share respirators. Wash your hands after disposal.

\*These instructions have been specifically designed for model 8612F, a non-valve, cup style respirator for non-occupational use. Fitting instructions for additional models can be found at [www.my3MN95.com](http://www.my3MN95.com).

#### ⚠ WARNING

**IMPORTANT:** This respirator is intended to help reduce breathing in pathogenic biological airborne particulates or germs during public health medical emergencies, such as an influenza pandemic. If you do not follow all instructions and limitations on the use of this respirator and/or do not wear this respirator during all times of exposure to the airborne germs, the respirator may not be as effective. The respirator cannot stop the breathing in of all germs in the air and does not eliminate the risk of disease or illness. For proper use of this respirator, see the *User Instructions* inside the package or call 3M at 1-888-436-3636.

# 3M

# Important Safety Information

## 3M™ Particulate Respirator 8612F

For Use by the General Public in Public Health Medical Emergencies.

(Keep this bulletin for future reference.)



### IMPORTANT:

If you have pre-existing lung disease such as asthma or emphysema, underlying heart disease such as heart failure or other health conditions, you may have difficulty breathing through respirators and should consult your healthcare provider (doctor) before use.

Standards regulating respirator training for the general public have not been established. For your respirator to help reduce the number of germs you breathe, you must read and follow the *User Instructions* included in the packaging.

### 1. Select The Right Respirator

- The U.S. Food and Drug Administration (FDA) has cleared this respirator (model 8612F) for use by the general public in public health medical emergencies, such as an influenza pandemic, to help reduce wearer exposures to airborne germs. This respirator is not intended for any other use.
- 3M respirators are designed for adult face sizes and shapes (not for use by children). To determine if the respirator fits you, follow the instructions included with the respirator. Always check your fit when you wear it.
- The 8612F respirator has been certified by the National Institute for Occupational Safety and Health (NIOSH) as an N95 for filtration efficiency. For more information on NIOSH certification, see the NIOSH approval label included in the packaging.

### 2. When To Wear Your Respirator

- To be most effective, use the respirator when you are directed by a public health authority or whenever you are exposed to germs in the air during a public health medical emergency, such as an influenza pandemic.

### 3. Use It Correctly

- Although the respirator can help reduce the number of germs you breathe, it will not eliminate the risk of disease or illness.
- Do not alter, abuse or use this respirator for any purpose other than those stated.

### 4. Prepare Yourself

- Practice putting a model 8612F respirator on to make sure you are ready in the event of a public health medical emergency, such as an influenza pandemic.
- **Anything that comes between the respirator and your face will make the respirator less effective by interfering with its fit. Men should shave every day that they may use the respirator. Hair, jewelry and clothing should not be between your face and the respirator.**
- Wash your hands thoroughly with soap and water, or use hand sanitizer, before handling the respirator.

### 5. Inspect Your Respirator

- Inspect respirator for holes, tears or other damage to surfaces, straps, metal nose strip and nose foam. If your respirator has been damaged – DO NOT USE IT. Get a new one.

### 6. How To Wear

- For more details, consult the fitting instructions included with the respirator. Fitting instructions are also available on 3M's website [www.my3MN95.com](http://www.my3MN95.com).

### 7. When To Replace

- Go to a clean, safe area, and replace your respirator if it is damaged, or if it becomes harder to breathe through.
- This is a single use respirator. Dispose of respirator after each use.
- You should never wash, disinfect, reuse or share your respirator with others.

### 8. Do Not Use

- Do not use this respirator for any purpose other than those stated.

For additional information, see [www.my3MN95.com](http://www.my3MN95.com) or call 3M at 1-888-436-3636.



### General Offices

3M Center  
St. Paul, MN 55144-1000  
[www.3M.com](http://www.3M.com)

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## Mold Remediation Contractors List

As of March 2011

This listing is NOT an endorsement of any listed company's capabilities by the Wisconsin Department of Health Services (DHS), nor does it imply preference over other companies not listed. The list is a resource to those interested in obtaining these specialized services, but not sure where to begin. It is advisable to conduct references checks before engaging any listed or other company to perform such services to maximize satisfactory job performance. In addition, please familiarize yourself with the information provided at the website below. It will help you evaluate the ability of the contractor to perform according to recommended practice. It is important to call the company and confirm what type of services they can provide. For tips on how to select a contractor, see the Wisconsin DHS, DPH, Bureau of Environmental and Occupational Health Mold website: <http://dhs.wisconsin.gov/eh/mold/>.

### **A & J Specialty Services, Inc.**

816 Burton Boulevard  
DeForest, WI 53532  
(608) 846-9525 (800) 727-8990

### **AAA Environmental Ind.**

3240 West Elm Road  
Franklin, WI 53132  
(888) 822-8757 (414) 761-9421

### **Advanced Restoration of WI**

Rice Lake, WI 54868  
(715) 236-2152

### **Air MD Restoration Inc.**

439 Komro Ct.  
Mondovi, WI 54755  
(715) 926-4841 Cell: (715) 579-3912  
cmdaul@frontiernet.net airmdrestoration.com

### **Archer Cleaning and Restoration Services**

2088E US Hwy 8, P.O. Box 852  
St. Croix Falls, WI 54024  
(888) 436-3499 Fax: (715) 483-9923  
www.archerrestoration.com

### **Aspen Restoration of Wisconsin, Inc.**

725 Progress Dr.  
Saukville, WI 53080  
(262) 268-0411  
aspenwi@netzero.com

### **Badger Asbestos Abatement**

P.O. Box 211033  
Milwaukee, WI 53221  
(414) 761-3905

### **Badger Remediation Service**

12013 W. Dearbourn Ave.  
Wauwatosa, WI 53226  
(414) 476-5861

### **Birch Environmental Maintenance**

PMB-361 6666 Odana Rd.  
Madison, WI 53719  
(608) 658-1913  
birch61@yahoo.net  
birchenvironmental.net

### **Building Werks**

655 Copenhagen Lane  
Denmark, WI 54208  
920/866-9375  
[reverett@Building-Werks.com](mailto:reverett@Building-Werks.com)

### **Castleworks Carpentry & Electric**

W5359 East Rd.  
Trego, WI 54888  
(715) 466-4439 Cell: (715) 296-5823

### **Certified Environmental Services**

2223 S. Kinnickinnic Ave.  
Milwaukee, WI 53207  
(414) 744-8100  
darrick.dysland@gte.net

### **Christianson Consulting, Inc.**

1510 Scott Road  
Port Washington, WI 53074  
(262) 284-3929 Cell: (262) 366-7513  
christiansonc@sbcglobal.net

### **Cleaning & Restoration Consultants, Inc., d/b/a Rainbow International**

P.O. Box 981  
Elkhorn, WI 53121-0981  
(262) 728-8007 Fax: (262) 728-8070  
www.rainbowintl.com

### **Environmental Health Services**

6409 Odana Road, Suite A  
Madison, WI 53719  
(608) 743-0810 (888) 752-3474 (EHSI)

**Fire & Flood Restoration Center**

Platteville, WI 53818-0120  
(608) 348-7147 (608) 348-7175  
lac@pcii.net

**Giertsen Company of WI**

2840 North Brookfield Rd  
Brookfield, WI 53045  
(262) 717-1300  
www.giertsenco.com

**GZA GeoEnvironmental, Inc.**

20900 Swenson Drive, Suite 150  
Waukesha, WI 53186  
(262) 754-2560 Fax: (262) 754-9711  
www.gza.com

**Heartland Construction & Services**

2650 Clive Street  
Green Bay, WI 54313  
(920) 592-1030  
heartlandconst@yahoo.com

**Hygieneering, Inc.**

400 E. Wisconsin Ave., Ste. 330  
Milwaukee, WI 53202  
(414) 291-0100 Fax: (414) 291-0110  
mguidarelli@hygieneering.com

**Holian Industries, Inc.**

Twin Lakes, WI 53181  
(815) 675-6681

**Lambert Environmental**

10315 West Greenfield Ave. #431  
P.O. Box 14621  
West Allis, WI 53214  
(414) 745-4859 Fax: (414) 774-3158

**Loyear Cleaning & Restoration Services, Inc.**

1220 West Michigan St. 2700 Roosevelt Rd.  
Duluth, MN 55806 St. Cloud, MN 56301  
(218) 724-5800 (320) 529-8330  
(800) 478-5801  
www.loyearcleaning.com

**Meiller's Cleaning Specialists**

Delavan, WI 53115-0462  
(262) 723-6354

**Microbe Guard of Western Wisconsin, LLC**

106 Hamilton Dr.  
River Falls, WI 54022  
(715) 426-5645 Cell: (612) 363-8074  
jeffkay@presenter.com

**Moisture Solutions**

6373 W. Glenbrook Rd.  
Brown Deer, WI 53223  
(414) 354-8895

**Mold Remediation Services, LLC**

3765 Creamery Rd., Unit #6  
DePere, WI 54115  
(920) 330-0253 Fax: (920) 330-0254  
Wargus0518@yahoo.com

**Nelson Clean Care, Inc.**

N10 W28542 Northview Rd.  
Waukesha, WI 53188  
(262) 544-4923  
nelsoncleancare@wi.rr.com  
www.nelsoncleancare.com

**Paul Davis Restoration and Remodeling  
of Lakeland Counties of SE Wisconsin**

3236 Cottage Grove Rd N 2000 South 4<sup>th</sup> St.  
Cottage Grove, WI 53527 Milwaukee, WI 53204  
(888) 387-2429 (800) 954-2215  
jhirsch@pdr-usa.net Fax: (414) 383-3353  
www.pdrmadison.com www.pdwisconsin.com

**of Fox Valley & Northeast Wisconsin**

2225 Northern Rd  
Appleton, WI 54914  
(920) 729-1551 Fax: (920) 729-1655  
www.pdfoxvalley.com pdr-fv@tds.net

**Puroclean of Madison**

7039 Applewood Drive  
Madison, WI 53710  
(608) 833-8871 Cell: (608) 213-2980  
rmozgawa@puromail.com geads@puromail.com  
www.puroclean.com

**Robinson Brothers Environmental, Inc.**

220 Raemisch Rd.  
Waunakee, WI 53597  
(608) 849-6980  
www.robinsonbros.com info@robinsonbros.com

**Rock Island Environmental Services Inc.**

415 E Wall St., Suite D, P.O. Box 1687  
Eagle River, WI 54521  
(877) 388-1247 Fax: (877) 388-1247  
www.rockislandes.com info@rockislandes.com

**Servicemaster Clean**

7338 Devonshire Ave.  
Greendale, WI 53129  
(414) 421-4940

**Triple A Maintenance**

Cameron, WI 54822

(877) 387-4753

(715) 458-3329

tripea@charter.net

**ILLINOIS**

**Clean World Engineering LTD.**

1727 S Naperville Rd., Suite 200

Wheaton, IL 60187

(630) 260-0797

**Global Services, Inc.**

7504 Meyer Rd.

Spring Grove, IL 60081

(815) 675-6681

## Mold in your home: Cleaning options

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### Before you clean

Before cleaning mold in your home, first understand why it's there and **fix the problem causing the mold growth**. This will require a thorough inspection. Fungi (or mold) need a source of moisture, a source of organic matter, and proper temperature. Areas inside your home that have poor air movement and a source of moisture are likely areas for mold growth.

Once the source of the water intrusion and the food source have been found, they should be addressed to prevent future mold growth. If this is not done, mold may return. You must either eliminate or ventilate the source of water or moisture. Affected building materials, such as carpets or drywall, may need to be replaced.

### If I see mold in my home, should it be tested?

Testing for mold is generally not necessary. If you can see and smell it, you have a mold problem.

**However, it is recommended that you do have a thorough inspection to determine the cause of the mold growth.** DHS recommends that you hire a consultant specializing in building assessments to evaluate your entire house. For a list of Home Performance Consultants, contact the Wisconsin Focus on Energy Program at 1-800-762-7077 or go to: <http://www.focusonenergy.com> and follow the links for *Your Home, Tools*, and *Find a Home Performance Consultant*. These specialists conduct indoor air quality (IAQ) investigations, and can determine when structural issues exist that may be causing mold problems (such as ice dams, moisture, and heating and cooling complaints). They can help you understand why mold is growing in your home and what actions you will need to take to prevent mold growth. There are also IAQ consultants and mold remediation contractors whose primary focus is mold. For lists of these, go to <http://www.dhs.state.wi.us/eh>, follow the link for *Human Health Hazards* and then click on *Mold*.

### How can I clean up mold in my home?

Occasionally, mold can be found in the bathroom, on a windowsill, shower curtain, or wall. This mold can be wiped off the surface with a damp cloth and cleaning agent (e.g. window or bathroom cleaner). Preventing mold growth requires controlling the moisture source. This may be as simple as using a dehumidifier or fixing a simple leak. For larger mold problems (about 10 square feet), follow the three (3) phases below: *(If you feel that the following guidelines are too vigorous, you should contact a mold contractor to complete the clean-up.)*

#### A. Preparation phase

Gather the following items:

- Plastic sheets to cover door openings, windows floors and vents (the plastic should be at least 4 mm in thickness)
- A breathing respirator (to cover mouth and nose) with HEPA cartridges (available at most home fix-it stores)
- 3 spray bottles/plant misters
- Paper towels or disposable rags
- Heavy duty plastic garbage bags
- General household cleaner (**only use cleaners without ammonia**) Household bleach (5% chlorine) Note that bleach is typically not necessary to clean up mold, unless a sewage release occurred. In this case, a dilute bleach solution can be used as a final rinse to help reduce both mold and bacteria.



- Latex (non-latex if you are allergic to latex) or rubber gloves and goggles
- A one-cup measuring container
- 3 buckets that will hold at least a gallon of water each
- Commercial grade HEPA-Vacuum. Do not use a home vacuum since it is not designed for this type of work. Contact your Local Health Department to find out where to rent a HEPA-Vacuum in your area.
- Dehumidifier. Do not use a fan since it can cause mold spores to be released.

## B. Mixing phase

***WARNING: Do not mix bleach with other household cleaners. Some household cleaners contain ammonia. If ammonia is mixed with chlorine bleach, a toxic gas can form, causing serious injury or death.***

1. Mix general household cleaner and water in a bucket and transfer to a spray bottle (follow manufacturer's instructions).
2. If bleach use is desired due to a gray (laundry) or black (sewage) water release, prepare a bleach solution in a separate bucket. Using gloves and goggles, add one cup (8 ounces) bleach for every gallon of hot water. Bleach (the active ingredient is chlorine) can reduce mold and bacteria on treated surfaces.
3. Transfer the bleach solution into the 2<sup>nd</sup> spray bottle (use gloves and goggles).
4. Pour clean, warm, rinse water (no bleach or household cleaner added) into the 3<sup>rd</sup> spray bottle.

## C. Application and cleaning phase

***CAUTION: The bleach solution is irritating and harmful to the skin, eyes, and clothing. Avoid direct contact with the bleach by wearing rubber gloves, respirator and goggles during the entire mixing and cleaning process.***

### Before you begin:

- Seal off the room from the rest of the house with the plastic and tape.
- Keep children and animals out of the work area during the cleaning procedure.
- Do not eat, drink, chew gum/tobacco or smoke at any time during cleaning.
- Use a dehumidifier prior to, during, and after the clean-up to keep areas dry and prevent mold from reoccurring.

### Clean-Up:

1. Spray and remove visible mold with general household cleaner solution. Start from the top and work down. Change towels frequently. Discard towels in plastic bag. Rinse the same area with clean water on a damp towel or lightly spray with warm rinse water in a spray bottle and wipe with a clean towel.
2. Repeat the above step until all visible mold is gone. Note: There may be some discoloration of the surface from both the mold and the cleaning solution. Take care to avoid damaging the surface by cleaning too hard.
3. If a bleach solution is to be used, wipe the affected area and let set for 15 minutes (for fungicides other than bleach, follow the manufacturer's instructions). Rinse the area with a damp towel using clean warm water or by lightly spraying with warm rinse water in a spray bottle and wiping with a clean towel.

Once Complete:

1. Once the surface is dry to the touch, HEPA Vacuum for at least 1 minute per square foot of affected area. Dead mold and spore bodies can still be highly allergenic to susceptible individuals, so thorough HEPA-vacuuming is necessary to remove all mold fragments. Place HEPA-vacuum bag into a garbage bag (follow manufacturers guidelines for using a HEPA-Vacuum).
2. Tightly tie the garbage bag and dispose of it as you would your everyday household garbage.
3. Flush wastewater down a toilet, utility sink, or floor drain.
4. Change out of your cleaning clothes. Wash your hands and face.
5. Wash your cleaning clothes separate from your family's laundry.
6. At this point, you can apply paint or other coating to the surface. You may wish to use a paint/coating that contains a mildewcide or fungicide to prevent future mold growth. Be sure to follow the manufacturer's instructions and recommendations when using any mildew resistant paint or paint additive. Remember, these are also pesticides, and may have adverse health effects on some individuals.

***Note on Use of Ozone Air Cleaners***

Do not use ozone air cleaners to kill mold. Ozone air cleaners generate ozone: a known respiratory irritant. The USEPA does not recommend using ozone generating air cleaners for treating indoor mold problems (<http://www.epa.gov/iaq/pubs/ozongen.html>). If a contractor or a consultant recommends the use of an ozone generating air cleaner to treat a mold problem in your home, please file a complaint with the Wisconsin Department of Agriculture, Trade and Consumer Protection at 1-800-422-7128, or on the web at <http://datcp.state.wi.us> and click on ***File Consumer Complaint***. Be sure to include as much information as possible.

**For more information on mold**

- For health related questions, contact the Division of Public Health, Bureau of Environmental Health, PO Box 2659, Madison, WI 53701-2659, (608) 266-1120.
- For other environmental health resources, including contacting your local public health agency, visit: [www.dhs.state.wi.us/eh](http://www.dhs.state.wi.us/eh)





## HURRICANES & FLOODS

### FACT SHEET

## Key Facts About Hurricane and Flood Recovery: Protect Your Health and Safety After a Hurricane or Flood

### Prevent illness from FOOD

**Identify and throw away food that may not be safe to eat.** Throw away food that may have come in contact with flood or storm water. Throw away canned foods that are bulging, opened, or damaged. Throw away food that has an unusual odor, color, or texture. Throw away perishable foods (including meat, poultry, fish, eggs and leftovers) that have been above 40°F for 2 hours or more. Thawed food that contains ice crystals or is 40°F or below can be refrozen or cooked. If cans have come in contact with floodwater or storm water, remove the labels, wash the cans, and dip them in a solution of 1 cup (240 milliliters) of bleach in 5 gallons of water. Relabel the cans with a marker.

**Store food safely.** While the power is out, keep the refrigerator and freezer doors closed as much as possible. Add block ice or dry ice to your refrigerator if the electricity is expected to be off longer than 4 hours. Wear heavy gloves when handling ice.

### Prevent illness from WATER

**Listen to and follow public announcements.** Local authorities will tell you if tap water is safe to drink or to use for cooking or bathing. If the water is not safe to use, follow local instructions to use bottled water or to boil or disinfect water for cooking, cleaning, or bathing.

**Correctly boil or disinfect water.** Hold water at a rolling boil for 1 minute to kill bacteria. If you can't boil water, add 1/8 teaspoon (approximately 0.75 mL) of newly purchased, unscented liquid household bleach per gallon of water. Stir the water well, and let it stand for 30 minutes before you use it. You can use water-purifying tablets instead of boiling water or using bleach. For infants, use **only** pre-prepared canned baby formula. Do not use powdered formulas prepared with treated water. Clean children's toys that have come in contact with water. Use a solution of 1 cup of bleach in 5 gallons of water to clean the toys. Let toys air dry after cleaning.

### Prevent and treat OTHER ILLNESS and INJURIES

**Prevent carbon monoxide poisoning.** Carbon monoxide is an odorless, colorless gas that is produced by many types of equipment and is poisonous to breathe. Don't use a generator, pressure washer, charcoal grill, camp stove, or other gasoline- or charcoal-burning device inside your home, basement, or garage or near a window, door, or vent. Don't run a car or truck inside a garage attached to your house, even if you leave the door open. Don't heat your house with a gas oven. If your carbon monoxide detector sounds, leave your home immediately and call 911. Seek prompt medical attention if you suspect carbon monoxide poisoning and are feeling dizzy, light-headed, or nauseated.

**Avoid floodwater and mosquitoes.** Follow all warnings about water on roadways. Do not drive vehicles or heavy equipment through water. If you have to work in or near floodwater, wear a life jacket. If you are caught in an area where floodwater is rising, wear a life jacket, or use some other type of flotation device. Prevent mosquito bites by wearing long pants, socks, and long-sleeved shirts and by using insect repellents that contain DEET or Picaridin. More information about these and other recommended repellents

## Key Facts About Hurricane and Flood Recovery

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can be found in the fact sheet "Updated Information Regarding Insect Repellents" at [www.cdc.gov/ncidod/dvbid/westnile/RepellentUpdates.htm](http://www.cdc.gov/ncidod/dvbid/westnile/RepellentUpdates.htm).

**Avoid unstable buildings and structures.** Stay away from damaged buildings or structures until they have been examined and certified as safe by a building inspector or other government authority. Leave immediately if you hear shifting or unusual noises that signal that the structure is about to fall.

**Beware of wild or stray animals.** Avoid wild or stray animals. Take appropriate precautions to avoid animal bites and rabies exposure (see [www.cdc.gov/rabies/exposure](http://www.cdc.gov/rabies/exposure)). Call local authorities to handle animals. Get rid of dead animals according to local guidelines.

**Beware of electrical and fire hazards.** NEVER touch a fallen power line. Call the power company to report fallen power lines. Avoid contact with overhead power lines during cleanup and other activities. If electrical circuits and equipment have gotten wet or are in or near water, turn off the power at the main breaker or fuse on the service panel. Do not turn the power back on until electrical equipment has been inspected by a qualified electrician. Do not burn candles near flammable items or leave the candle unattended. If possible, use flashlights or other battery-operated lights instead of candles.

**Beware of hazardous materials.** Wear protective clothing and gear (for example, a respirator if needed) when handling hazardous materials. Wash skin that may have come in contact with hazardous chemicals. Contact local authorities if you are not sure about how to handle or get rid of hazardous materials.

**Clean up and prevent mold growth.** Clean up and dry out the building quickly (within 24 to 48 hours). Open doors and windows. Use fans to dry out the building. To *prevent* mold growth, clean wet items and surfaces with detergent and water. To *remove* mold growth, wear rubber gloves, open windows and doors, and clean with a bleach solution of 1 cup of bleach in 1 gallon of water. Throw away porous items (for example, carpet and upholstered furniture) that cannot be dried quickly. Fix any leaks in roofs, walls, or plumbing.

**Pace yourself and get support.** Be alert to physical and emotional exhaustion or strain. Set priorities for cleanup tasks, and pace the work. Try not to work alone. Don't get exhausted. Ask your family members, friends, or professionals for support. If needed, seek professional help.

**Prevent musculoskeletal injuries.** Use teams of two or more people to move bulky objects. Avoid lifting any material that weighs more than 50 pounds (per person).

**Stay cool.** When it's hot, stay in air-conditioned buildings; take breaks in shaded areas or in cool rooms; drink water and nonalcoholic fluids often; wear lightweight, light-colored, loose-fitting clothing; and do outdoor activities during cooler hours.

**Treat wounds.** Clean out all open wounds and cuts with soap and clean water. Apply an antibiotic ointment. Contact a doctor to find out whether more treatment is needed (such as a tetanus shot). If a wound gets red, swells, or drains, seek immediate medical attention.

**Wash your hands.** Use soap and water to wash your hands. If water isn't available, you can use alcohol-based products made for washing hands.

**Wear protective gear for cleanup work.** Wear hard hats, goggles, heavy work gloves, and watertight boots with steel toes and insoles (not just steel shank). Wear earplugs or protective headphones to reduce risk from equipment noise.

For more information, visit [emergency.cdc.gov/disasters](http://emergency.cdc.gov/disasters),  
or call CDC at 800-CDC-INFO (English and Spanish) or 888-232-6348 (TTY).

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